

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2005/009208

International filing date (day/month/year)
13.05.2005

Priority date (day/month/year)
25.05.2004

International Patent Classification (IPC) or both national classification and IPC
G06K19/07, G11C11/22

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Grob, M

Telephone No. +49 89 2399-2620



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/JP2005/009208**10/588108****Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: PATENT ABSTRACTS OF JAPAN vol. 2003, no. 07, 3 July 2003 (2003-07-03) -
& JP 2003 091988 A (DAINIPPON PRINTING CO LTD), 28 March 2003 (2003-
03-28)

2. D1 discloses (cf passages mentioned in the search report and the Figs 1,7,8) an IC card 20 (cf Fig 8) comprising a CPU 21, a ferroelectric memory 2,25 (also shown in fig 1), feedback section 3 (cf Fig 1) and a control circuit 4. After a destructive read, the control circuit 4 decides whether or not the data read from the ferroelectric memory 2,25 should be re-written back into the memory 2 using the feedback section 3. In particular, in the case of a "use-once" cryptographic key, the data are not re-written so that an automatic erasing of data takes place i.e. the data becomes read once data.
- 2.1 Bearing paragraph 2 in mind, D1 discloses a semiconductor memory card 20 comprising a first storage unit 2,25 operable to store data, the first storage unit having characteristics by which the data becomes uncertain in the first storage unit after the data is read (i.e. destructive read in the ferroelectric memory 2,25); a second storage (implicitly inside the control circuit 4 or CPU 21) operable to store processing mode specific information (i.e. should the data read be re-written or not) that specifies a mode of writing into each address of the first storage unit after the stored data is read out; a reading unit (implicitly the memory 2,25 must comprise a reading unit RD) operable to read out the data stored in a designated address of the first storage 2,25; a processing mode determination unit 4 operable to determine the mode of writing into the designated address when the stored data is read out by the reading unit; and a writing unit (implicitly the memory 2,25 must comprise a writing unit WR) operable to alternatively (i.e. selectively cf paragraph 6 below) write or not write certain data into the designated address according to the mode determined by the processing mode determining unit 4 after the data stored in the designated address is read out.

- 2.2 It follows that the memory card of claim 1 differs from the IC card disclosed in D1, in that in the former the mode of writing into the designated address is determined by comparing the designated address with the processing mode specification information.
- 2.3 Although it is not completely clear how the control circuit 4 (and/or the CPU 21) decides whether or not re-writing should take place, it would be obvious to base this decision on the address where the data are stored. For the avoidance of doubt, it would not be possible to make said decision based on the data itself, because the key is different for each cryptographic process whereas the address would remain unchanged. Hence, the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.
3. The method of claim 7, the integrated circuit of claim 8, the program of claim 9 and the storage medium of claim 10 comprise features or steps which reflect the features set out in claim 1. Hence, for reasons similar to those mentioned in paragraphs 2-2.3 above, the subject-matter of each of the claims 7-10 lacks an inventive step (Article 33(3) PCT).
4. The dependent claims 2-6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step. For example, it is known to rewrite the data read from an address back into the same address. Also the "certain data" in claim 2 can be read onto the data read from the memory.

Re Item VII

Certain defects in the international application

5. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this documents identified therein.
- 5.1 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

- 5.2 Contrary to the requirements of Rule 6.3(b) PCT, the independent claims are not properly cast in the two-part form.

Re Item VIII

Certain observations on the international application

6. In claim (cf line 17) the term "alternatively" suggests that the writing operation and the "not writing" operation interchange at regular intervals. However, in the application, whether or not a writing operation is performed depends on the designated address. Hence, in the application, the writing unit is not operable to **alternatively** write or not write the data. It follows that claim 1 is not clear in the sense of Article 6 PCT. It seems that lines 17-19 of claim 1 should say: "a writing unit operable to **selectively write or not write** certain data into the designated address according to the mode determined by the processing mode determining unit ...".
- 6.1 Claims 7-10 are unclear for reasons similar to those in paragraph 6 above.
- 6.2 In claim 1, the reading unit reads out data stored in a designated address. The writing unit writes data into that designated address. Hence, the reading and writing units must process the designated address. However, claim 5 suggests the contrary. Hence, claim 5 is not clear, contrary to Article 6 PCT.
- 6.3 In view of the phrase "an integrated circuit in a semiconductor memory card" (cf claim 8) it is not clear whether protection is sought merely for the integrated circuit or the combination of the semiconductor memory and the integrated circuit? Hence, claim 8 is not clear, contrary to Article 6 PCT.
- 6.4 In addition, it is not clear whether the word "including" (cf line 2 of claim 8) refers to the integrated circuit or the semiconductor memory card?
- 6.5 Claim 1 comprises all of the features of claim 8. Hence, these claims are not concise, contrary to Article 6 PCT.
- 6.6 The program of claim 9 comprise all of the steps of the method claim 7. Hence, these

**WRITTEN OPINION OF THE
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AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2005/009208

claims are not concise. It would be appropriate to reformulate claim 9 as follows: A program comprising code means adapted to perform all of the steps of claim 7 when the program is run on a computer. It would also be appropriate to reformulate claim 10 as follows: storage medium storing the program of claim 9.